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09/623,928	09/08/2000	Hannu H. Kari	796.366USW1	1849

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EXAMINER

PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
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2142

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/623,928

Applicant(s)

KARI ET AL.

Examiner

Prieto B.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 62-93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 62-93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/12/07 has been entered.

Claim Rejection under 35 U.S.C. 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 62, 75, 86, 88, 90, and 92-93 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement including NEW MATTER. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In this case, the added limitation in claim 62 (for example) recites, "connecting data transmission traffic simultaneously through the at least two chosen access points" has been reviewed as described in the invention as filed.

According to the invention's disclosure (discussed in detail below), in the primary embodiment, the choose more than one access for connection at the same time, wherein the TE may first be connected to the host by an Ethernet access (R1), whereby the data is routed through this access, then continues transmission of data in another alternative route (e.g. an IR access (R2) or GSM data access (R3), on which the operation can be continued. The transmission connection is essentially formed by continuous network access, which may be momentarily disconnected only during the tie when a new route is sought and connected for use. In the secondary embodiment the traffic is divided between at least two access, so that a certain part of the traffic is relayed through one access and the remaining traffic through another access. In the third embodiment, if the TE moves repeatedly it is possible to foresee the need to change access

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point and to connect the new access point in advance, whereby the TE is in connection though at least two access points at the same time, whereupon the traffic through the first access can be stopped.

Hence, it is not clear where is “data transmission traffic sent simultaneously through the at least two access points”, as now claimed described in the invention as filed.

Claim Rejection under 35 USC 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 62-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US 6,122,514) SPAUR et. al. (referred to as Spaur hereafter) in view of (US 6,952,588) Igarashi

Regarding claim 62, Spaur teaches substantial features of the invention, including a system/method for routing a data transmission connection between a mobile unit (“terminal equipment”) and a host site over a (“data transmission”) network (col 5/lines 28-43 and col 7/lines 5-9), wherein a data transmission network includes two network channels, links or routes (“two access points”) (channels 34a-n, col 6/lines 30-48) for connection of the terminal equipment to the data transmission network, the method comprising:

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establishing a requirement parameters (“criterion”) for a choice of an access point (col 2/lines 37-56, col 4/lines 55-62);

analyzing and weighting (“evaluating”) the access points according to said criterion (col 2/lines 60-col 3/line and col 4/line 50-col 5/line 6);

choosing at least two of the access points which meet said criterion (col 2/line 60-col 3/line 22, and col 4/lines 58-62); and

transmitting data through one of the access points and other data the another access point (col 6/lines 1-29, 49-64);

transmitting at least a part of data through at least two of the at least two chosen access points in a given direction during the data transmission connection (col 6/lines 1-29 and 49-64); and

where ~~data transmission~~ traffic is sent simultaneously through the at least two access points across one or more networks. Specifically, the *delivery* of data packets through the *selected one or ones of network channels* that carry the transmitted information, including *simultaneously utilizing a number of network channels* that relate to the *chosen* one or more network(s) over which the present information is to be transferred (see col 6/lines 1-15). Although Spaur teaches data transmission traffic is sent simultaneously through the at least two access points across one or more networks.

Igarashi exemplifies that data transmission traffic is sent simultaneously through the at least two access points across a single network (see summary).

It would have been obvious to one of ordinary skill at the time the invention was made to simultaneously transmit data transmission traffic (or simply data) through the at least two access points across one or more networks because in doing so the traffic is reduced, without increasing the operational functions of the sending and receiving entities, as suggested by Igarashi.

Regarding claim 63, choosing the access points meeting said criterion in the terminal equipment (col 2/line 60-col 3/line 22 and col 4/line 58-62).

Regarding claim 64, choosing the access points meeting said criterion in an interconnection exchange device (“gateway exchange”) (col 7/lines 19-20).

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Regarding claim 65, establishing the criterion for the choice of a transmission capacity of a data transmission of the chosen access points (col 2/lines 37-col 3/line 22 and col 4/lines 55-65),

choosing the transmission capacity of each chosen access point according to a result of the evaluation step (col 7/lines 41-45, col 2/line 60-col 3/line 22 and col 4/lines 58-62), and

delivering and transmitting (“proportioning”) the data transmission between the chosen access points in relation to the chosen transmission capacities (col 6/lines 1-29, 49-64).

Regarding claims 66-67, estimating the access points repeatedly (“constantly”) including at certain intervals of time (col 20/lines 20-23).

Regarding claim 68, estimating the access points by monitoring transmission parameters (col 9/lines 46-53), including the quality of the data transmission (col 8/lines 42-50 and col 2/lines 38-43).

Regarding claim 69, giving information (“reports”) to an application (10, 12, 14 and 18 of Fig. 1) used in the terminal equipment on characteristics of the chosen access points (col 5/lines 47-50).

Regarding claim 70, adapting a functioning of the application according to the reported characteristics (col 5/lines 47-60 adapt or change the application see col 9/lines 7-20).

Regarding claim 71, reporting characteristics of the chosen access points to a user (col 4/lines 37-49 and col 9/lines 30-34).

Regarding claim 72, establishing the criterion from an application to be used in the terminal (col 5/lines 47-50).

Regarding claim 73, choosing at least one access point meeting said criterion for the application (col 4/lines 11-16, and col 2/line 60-col 3/line 22).

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Regarding claim 74, evaluating the access points, in which the access points where one is wireless access point (col 6/lines 30-48).

Regarding claim 75, this claim comprises limitation substantially the same as those in claim 62, thereby same rationale of rejection is applicable, further limitations comprise:

- establishing a criterion for a choice of a data transmission relaying capacity of the access points (col 2/lines 38-43, 57-46, requirements include transmission relaying parameters, e.g. bandwidth);

- analyzing, evaluating and weighting (“estimating”) the access points in accordance with the criterion (col 2/line 60-col 3/line 44 and col 4/line 50-col 5/line 6);

- choosing a relaying capacity of each access point according to results of the estimation step (col 2/line 60-col 3/line 22 and col 4/line 58-col 5/line 6); and

- the data (“transmission traffic”) is delivered and transmitted (“proportioned”) between the access points in relation to the chosen relaying capacities (col 6/lines 1-29, 49-64).

Regarding claims 76-77, these claims are substantially the same as claims 63-64, discussed above, same rationale of rejections is applicable.

Regarding claims 78-84 and 85, these claims are substantially the same as claims 66-72 and 74, respectively discussed above, same rationale of rejection is applicable.

Regarding claim 86, this system “arrangement”, claim is substantially the same as claim 62, taught by the applied prior art as noted, discussed above, wherein the same functions on claim 62, are performed in this claim by an entity called “router”, same rationale of rejection is applicable.

Regarding claim 87, this claim is substantially the same as claim 74, same rationale of rejection is applicable.

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Regarding claim 88, this claims is substantially the same as claims 62, 64 and 75, same rationale of rejection is applicable.

Regarding claim 89, this claim is substantially the same a claim 74, same rationale of rejection is applicable.

Regarding claim 90, this claim is substantially the same as claim 88, which is the same in substance as claims 62, 64 and 75, discussed above, same rationale of rejection is applicable.

Regarding claim 91, this claim is substantially the same as claims 74, 89, discussed above, same rationale of rejection is applicable.

Regarding claim 92, this apparatus claim is substantially the same as the method claim 62, same rationale of rejection is applicable.

Regarding claim 93, this apparatus claim comprising the means for performing functions is substantially the same as the functions performed by the apparatus claim 92, same rationale of rejection is applicable.

Response to Arguments

6. Regarding claim 75, it is argued (p. 14-16) of remarks that the Spaur reference does not teach data transmission traffic is sent simultaneously through the at least two access points. Because according to applicant's interpretation Spaur transfers information through a number of network channels that transmit data across different networks, such as cellular digital packet data networks, satellite networks, and FM-sub carrier network, citing column 11, lines 12-26.

In response to the above-mentioned argument, applicant's interpretation has been fully reviewed. The cited portion column 11, lines 12-26 of the Spaur reference has been reviewed, but that portion has no mentioned what so ever of network. The cited portion, namely, column

11, lines 12-26 has no mention of “different networks, such as cellular digital packet data networks, satellite networks, and FM-sub carrier network”, as argued by Applicant.

It is respectfully noted that cellular digital packet data (CDPD), satellite, and FM-sub carrier such as using particular FM frequency bands, are not networks. For example, CDPD stands for cellular digital packet data, it remains unclear how can a data packet be equated to a network. The definition of these terms has been provided as extrinsic evidence make on the record.

Spaur discloses: A number of communication networks are currently utilized in transmitting information including voice and data. Different network channels include CDPD, satellite, SMR, FM-subcarrier, DAB, infrared and two-way messaging. The network that is access for information transfer depends on its availability. Spaur has been reviewed. It is not evident from his disclosure where the above argued, cellular digital packet data (CDPD), satellite, and FM-subcarrier such as using particular FM frequency bands, discussed by are defined as networks.

Further in response to the above-mentioned argument, the invention's disclosure has been reviewed. Figure 1 shows a terminal equipment (TE) connected through an intermediate network (internet) to a host in a known manner, for example when moving outside the office in situation one, the terminal equipment connects with access point (AP1), in this case the user manually chooses another access point by actively connection and registering with a new access point in order to bring about the connection (see specs p. 1 16-36)

The connection from the TE is set up using the available access. Various *network access* are e.g. the *Ethernet or infra-red (IR) at the office or Global System for Mobile Communications) data access*, especially the General Packet Radio Service (*GPRS*) *access*, outside the office (see specs p. 2, lines 1-13).

Figure 2 shows three alternative routes R1, R2, R3 from the TE to a host by way of an intermediate internet network and gateway exchange (GW). According to the invention, one can hereby choose between several alternative routes, in the case shown in Figure 2, there are three routes, of which at least one access at a time is chosen for use by the TE. The access connected to the TE may be e.g. *Ethernet, IR and GSM* data accesses (see specs 4, lines 28-36).

In the primary embodiment of the method according to the invention it is also possible to choose more than one access for connection at the same time between the TE and the host. Figure 4 shows by way of example a network structure wherein data is transmitted along at least two different routes between TE and the host (see specs p. 5, lines 19-23). According to the functionality of the primary embodiment of the invention, the TE may *first* be connected to the host by an Ethernet access (R1), whereby the data is routed through this access. When the user removes the Ethernet card, the router in the TE will look for an alternative route, on which the operation can be continued. When the new route is found, e.g. an IR access (R2), the operation is continued through the IR access. When the user connects to the GSM data service, the router will route the data transmission by way of the GSM data access (R3). In the routing example according to the invention described above, the transmission connection is essentially formed by continuous network access, which may be momentarily disconnected only during the time when a new route is sought and connected for use.

In the secondary embodiment (Figure 5) the traffic is divided between at least two access according to pre-established criteria. The *traffic is divided* between the accesses in the proportion indicated by the result of the criteria check, e.g. so that a certain part of the traffic is relayed through one access and the remaining traffic through another access.

The primary and secondary embodiments of the invention which were described above can also be combined, whereby a choice of at least two access at a time is performed in the router in accordance with the primary embodiment of the invention, which the division of traffic between the chosen accesses is performed in accordance with the second embodiment of the invention (see p. 6, line 28 to p. 7, lines 16).

As criteria mentioned above one may establish e.g. the cost of the data transmission, so that a certain access is chosen, e.g. a GPRS access, or as much as possible of the traffic is always transmitted in the access when no such access is available where the operation would be cheaper, such as e.g. Ethernet. Other criteria may be e.g. the transmission capacity, transmission delays, data security or transmission errors, whereby the criteria is fulfilled e.g. when some other access is better than the access in use as regards the established criterion or it is found that the access in use is poor according to one criterion. Hereby such access may be chosen as a new access, which fulfils the second criterion, or the relaying of traffic can be moved more to the access fulfilling

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the second criterion. ... The criteria of choice are preferably established so that the traffic can be *directed* to the new access before the transmission capacity of the old access is removed.

In the third embodiment, if the TE moves repeatedly it is possible to foresee the need to *change* access point and *to connect* the new access point *in advance* to operate with the TE. Hereby e.g. in a situation of access change the TE is in connection though at least two access points at the same time, whereupon the traffic through the first access can be stopped (see p. 7, line 35 to p. 8, line 11).

The invention is especially suitable for use in transmission in the form of packages, e.g. in connection with a *GPRS network*, but also in data transmission of some other kind (p. 9, lines 31-34).

Thus, according to the invention's disclosure, in the primary embodiment, the choose more than one access ~~for connection~~ at the same time, wherein the TE may *first* be connected to the host by an Ethernet access (R1), whereby the data is routed through this access, then continues transmission of data in another alternative route (e.g. e.g. an IR access (R2) or GSM data access (R3), on which the operation can be continued. The transmission connection is essentially formed by *continuous* network access, which may be momentarily disconnected only during the tie when a new route is sought and connected for use. In the secondary embodiment the traffic is divided between at least two access, so that a certain part of the traffic is relayed through one access and the *remaining* traffic through another access. In the third embodiment, if the TE moves repeatedly it is possible to foresee the need to *change* access point and *to connect* the new access point in advance, whereby the TE is in connection though at least two access points at the same time, whereupon the traffic through the first access can be stopped.

Hence, it is not clear where is "data transmission traffic sent simultaneously through the at least two access points", as now claimed described in the invention as filed.

Further it is not clear where is "a network that has more than one network channel associated with it, as now argued. Figures 1 (prior art), 2, 4 and 6 illustrate network channels through a network, where the TE, host and gateway exchange are outside of the Internet cloud network.

Furthermore, since it is applicant's interpretation that in the applied reference, that cellular digital packet data, satellite, and FM-sub carrier are *networks*. Based on *this rationale*,

in the primary embodiment of this invention, more than one access for connection at the same time, wherein the may *first* be a network access channel Ethernet access (R1) across an *Ethernet network*, whereby the data is routed through this access, then continues transmission of data in another alternative route (e.g. e.g. an IR access (R2) across an *infrared network* or GSM data access (R3) across a *GSM data network*, on which the operation can be continued. The transmission connection is essentially formed by *continuous* network access across a plurality of different networks, which may be momentarily disconnected only during the tie when a new route is sought and connected for use.

The invention as argued is not distinguishable over the applied prior art of reference. Arguments that network channels of the Spaur reference transfer data over separate, distinct networks and thus patentably distinct from the claimed invention has been considered but not found persuasive. Particularly, in view of *Ethernet access (R1)*, *an IR access (R2)* and *GSM data access (R3)* of the invention.

Applicant's arguments that "only one intermediary network exist through which all the data is transferred", is distinguishable over the prior art has been considered but not found persuasive and found inconsistent with the invention as filed.

7. Regarding claims 62, 75, 86, 88, 90, 92, 93 are rejected as being anticipated by Spaur, it is argued the applied reference does not teach claim limitation as amended. Specifically, Spaur does not teach "transmitting at least a part of data through at least two of the at least two chosen access points though a single network, because according to applicant's interpretation of the reference, Spaur transmits an information packet over separate, distinct networks using one selected network channel.

In response to the above-mentioned argument, applicant's interpretation of the prior art is noted. However, Spaur teaches determining which of the channels are available for possible use and from the available channels that are found to be acceptable, *one or more* of them is selected for the particular application (column 2, lines 57-column 3, line 22). Spaur teaches *delivering* data packets through the *selected one or ones of network channels* that carry the transmitted information and *simultaneously utilizing a number of network channels* and, correspondingly, a

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number of network addresses that relate to the *chosen one* or more (i.e. network(s)) over which the present information is to be transferred (col 6/lines 1-15).

8. Applicant's arguments have been fully considered but not found persuasive.

Citation of Pertinent Art:

9. The following prior art made of record and considered pertinent to applicant's disclosure. References which whether the constitute prior art or do not qualify as prior art may be relied upon to show the level of ordinary skill in the art at or around the time the invention was made. The references may be relevant to establishing a motivation to combine which is implicit in the knowledge of one of ordinary skill in the art (see MPEP §2141.02).

Copies of Non-Patent Literature documents cited will be provided as set forth in MPEP§ 707.05(a):

US 6611547 RAUHALA discloses that: In a soft handover, the continuation of the data transfer (i.e. uninterrupted) is secured by the terminal having a connection *both* with the old and the new AP (Access Point) simultaneously during the handover.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (571) 272-3902. The Examiner can normally be reached on Monday-Thursday from 5:30 to 2:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Andrew T. Caldwell can be reached at (571) 272-3868. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, status information for published application may be obtained from either Private or Public PAIR, for unpublished application Private PAIR only (see <http://pair-direct.uspto.gov> or the Electronic Business Center at 866-217-9197 (toll-free)).

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April 25, 2007

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